

AUTOMOTIVE  
SECTION

## AUTOMOBILE DISPLACES SHORT RAILROADS

AUTOMOTIVE  
SECTIONAUTO MAY REPLACE  
SHORT RAILROADS

C. A. Morse, assistant director of operation of the United States Railway Administration and one of the best-known railroad men in America, believes that the motor car may do the short rail lines of the country.

"The perfection of the motor truck, together with the universal use of the automobile, has introduced a new element in the transportation problem that should be taken into consideration at this time, while studying the reorganization of the whole transportation system," said Mr. Morse.

"Where, heretofore, the development of the country for fifty miles on either side of a trunk line has required the construction of light branch lines, it is a question to be seriously considered whether this policy should be continued or whether the products of the farm should not be handled by motor car to the main lines."

**Purchases Increase.**

The situation described by Mr. Morse is not surprising to makers of motor cars designed especially for farmers' needs. Purchases by farmers of business cars of medium capacity have increased enormously during the past year.

Its wide touring radius and low haulage cost have enabled the farmer not only to curtail freight charges on purchases of building material, implements, seed, groceries, etc., but to take immediate advantage of top prices at the most advantageous markets.

Even sheep and calves are rapidly transported to markets fifty miles distant without the delay incident to the use of the railroads.

**Horses Inefficient.**

During the war a prominent engineer made the statement that the horse was the most inefficient machine used in America. No one has been quicker to recognize this than the farmer. The short haulage radius of the horse, its low rate of speed, the continually rising cost of feed, and the important fact that a horse continues to eat whether he is in the field or in the stable made the farmer realize that he could save money and gain speed by motorizing his transportation. Having purchased a business car to replace his expensive horse, the farmer now finds that the car is beginning to replace the railroads.

When the question of surface roads was brought up, Mr. Morse continued: "Investigation of this subject may show the desirability, as good roads are completed, of taking up many of the branch line railroads and utilizing the abandoned roadbed for improved motor roads. There is no denying that motor driven conveyances have been changing conditions of railroad transportation."

## LOCK YOUR CAR

MOST AUTO OWNERS  
ENGINE IGNORANT

It is surprising how few drivers of automobiles really know how the power is generated inside of the cylinders of their motors, according to J. M. Crawford, chief engineer for the Allen Motor Company. "There is scarcely one driver of an automobile in a hundred that really knows what makes his car run. Practically all of them when questioned will say that the motor is operated by explosions in the cylinders of their car."

It is strange that such a common misunderstanding could be so far from the real condition. In reality, there is nothing resembling an explosion, but instead a burning of gasoline vapor. Gas vapor upon being heated expands many times its own volume. Thus every engine is really a heat engine and derives its power from converting the fuel vapor into heat. When the gas is quickly burned a tremendous force is exerted which results in the impulses upon the pistons of the motor.

"The reason for advancing the spark is to hasten the ignition of the gas vapor in the cylinders. If the gas exploded and burned instantaneously this could not be done, for the motor would knock or run backward. But compared to the operation of the motor, the burning is slow and must be started before the piston reaches the top of its upward stroke. Thus by the time the piston begins its downward journey the full force of the expanding gas is being utilized."

WEIGHT OF TIRE IS NO  
INDICATION OF QUALITY

More weight in an automobile tire is no indication of quality. As a matter of fact exceptional weight in a tire may be one of the surest proofs of its inferiority.

The weight of a tire depends largely on the materials that are mixed in with the rubber in the course of manufacture. High specific gravity in rubber compositions can be caused only by the use of a large percentage of heavy compounding materials.

Tire experts know that all parts of the casing except the tread give longer service if they are made with the addition of very little compounding materials.

Another fact well known to the experts is that in making the tread the greatest toughness and durability can be secured by adding ingredients that are relatively light.

The tire user can readily see that there is, therefore, no reason why tires should be heavy in order to be strong. Of two tires of equal dimensions the lighter is an all probability the stronger.

## LOCK YOUR SPARE TIRES

## LOST POWER AND OVERHEATING

PART AFFECTED.	NATURE OF TROUBLE.	SYMPTOMS AND EFFECTS.	REMEDY.
Water Pipe Joint.	Loose.	Loss of water, heating.	Tighten bolts, replace gasket.
Spark Plug.	Leakage in threads, insulation, or packing.	Loss of power. Hissing caused by escaping gas.	Replace insulation if defective, screw down tighter.
Compression Release Cock.	Leak in packing. Leak in fitting.	Loss of power. Whistling or hissing.	Tighten if loose. Grind fitting to new seating in body.
Combustion Chamber.	Crack or blowhole. Roughness. Carbon deposits. Sharp edges.	Loss of compression. Pre-ignition.	Fill by welding. Smooth out roughness. Scrape out or dissolve carbon.
Valve Chamber Cap.	Leak in threads. Defective gasket.	Loss of compression. Hissing.	Remove. Apply pipe compound to threads and replace. Use new gasket or packing.
Valve Head.	Warped. Scored or pitted. Scale. Loose on stem (two-piece valves only).	Loss of compression.	True up in lathe. Grind to shape. True up and tighten by riveting.
Valve Seat.	Warped or pitted. Covered with carbon. Foreign matter between valve and seat.	Loss of compression.	Use resurfacing reamer. Clean off and grind valve to seat.
Valve Stem.	Covered with scale. Bent. Sticking in guide. Stuck in guide.	Valve does not close. Loss of compression.	Clean with emery cloth. Straighten. True up and smooth off free with kerosene.
Valve Stem Guide.	Burnt or rough. Loose in valve chamber.	Valve may stick. Action irregular.	Clean out hole. Screw in tighter.
Valve Spring.	Weak or broken.	Valve does not close.	Replace with new.
Valve Operating Plunger.	Loose in guide. Too much clearance between valve stem.	Valve action poor. Lift insufficient.	Replace with new. Adjust screw closer.
Valve Lift Adjusting Screw.	Threads stripped. Too near valve.	Poor valve action.	Replace with new. Adjust with proper reference to valve stem.
Valve Lift Cam.	Worn cam contour. Loose on shaft. Out of time.	Not enough valve lift. Will not lift valve. Valve opens at wrong time.	Replace with new. Replace pins or keys. Set to open properly.
Camshaft.	Sprung or twisted.	Valves out of time.	Straighten.
Camshaft Bushing.	Worn.	Not enough valve lift.	Replace.
Camshaft Drive Gear.	Loose on shaft. Out of time. Worn or broken teeth.	Irregular valve action.	Fasten securely. Time properly. Replace with new.
Cam Fastenings.	Worn or broken.	Valves out of time.	Replace with new.
Cylinder Wall.	Scored, gas leaks. Poor lubrication causes friction.	Poor compression. Overheating.	Grind out bore. Repair oiling system.
Piston.	Binds in cylinder. Walls scored. Worn out of round.	Overheating. Poor compression.	Lap off excess metal. Replace with new.
Piston Rings.	Loss of spring. Loss in grooves. Scored. Worn or broken. Slots in line. Carbon in grooves. Insufficient opening. Binding on cylinder.	Loss of compression. Gas blows by. Overheating because of friction.	Peen ring or replace. Fit grooves. Grind slots apart. Replace. Turn slots apart. Remove deposits. File slot. Grind or lap to fit cylinder bore.
Wristpin.	Loose, scores cylinder.	Loss of compression.	Fasten securely. Replace cylinder if groove is deep.
Crankshaft.	Scored or rough on journals. Sprung.	Overheating because of friction.	Smooth up. Straighten.
Crank Bearings. Main Bearings.	Adjusted too tight. Defective oiling. Brasses burned.	Overheating because of friction.	Adjust freely, clean out oil holes and enlarge oil grooves.
Oil Pump.	Insufficient oil. Poor lubricant. Dirty oil.	Overheating.	Replenish supply. Use best oil. Wash out with kerosene, put in clean oil.
Water Space. Water Pipes.	Clogged with sediment or scale.	Overheating.	Dissolve foreign matter and remove.
Pan Belt.	Loose or broken.	Overheating.	Adjust or replace.
Piston Head.	Cracked (rare). Carbon deposits.	Loss of compression. Pre-ignition.	Weld by autogenous process. Scrape off carbon accumulations.

From Victor M. Page, M. E. Charts published Norman W. Henley Pub. Co., New York.

'DESERT RAT' VISITS  
PLACE HE MET T. R.

BISMARCK, N. D., Aug. 20.—King Stanley, old-time scout, prospector, guide and desert rat, yesterday revisited the little cottonwood cabin in which, almost forty years ago, he first met the late Col. Theodore Roosevelt, and that visit opened a whole string of reminiscences of the early days when Bismarck was principally a collection of dance halls, saloons, and gambling houses, lining the river bank, and when the Missouri was the jumping off place of civilization.

Colonel Stanley, who bears his title by courtesy of Congress, which informally conferred the honor upon him, the late Col. William A. Cody (Buffalo Bill) and "White Hawk," now better known in his Wisconsin home as "Doc" Powell, arrived in Bismarck after a 10,000-mile journey by Maxwell from Los Angeles. And he was rather fagged when he reached the Capital City, for, between Cleveland and Medina, passing through the Miller slough on the Red Trail, he encountered his first accident since leaving Los Angeles, about three months ago.

"Twasn't the car's fault and 'twasn't Jimmy's fault," referring to the driver and mechanic of the party and the owner of the car, James M. Drake, Los Angeles garage proprietor.

Saved the Kiddies.

"We were bowling along, about twenty-five miles an hour, when less than fifty feet ahead of us two youngsters climbed up the bank, and into the road, right in the path of our car. There wasn't anything to do for it but jump the fill, and that's what Jimmy did. We landed on all fours—the car, I mean—in the mud and water at the bottom of the fill, but we saved the kids, and the car wasn't really hurt. But it tied us up

for two days, and it spoiled a perfect record for the trip.

"Bismarck seems like home to me, I was here when it was a real frontier city, one of the live spots of the West. I knew Capt. Grant Marsh well, and old Dennis Mannafin, too. Ran across Steve Welch today, and he remembered me. I operated in the Black Hills mostly in my scouting days, but I often got up to Bismarck, and I made one official trip up the little Missouri at the Banrock Indian uprising.

**How He Got His Title.**

"My title?"

"Well, you see, fellows like Cody and White Hawk and myself were boss of the scouts, and we had to have some title, so they called us colonels, and it stuck in after life. Years ago Congress was considering passing a law to make it a crime for anybody to wear a military title he wasn't entitled to. They had a good deal of fun at the expense of the 'Kentucky colonels,' but finally Bismarck got up and said:

"There's three men that are using the title of colonel that I feel are entitled to it, and that this law would hit. They are Cody, White Hawk and King Stanley. I don't believe in taking this honor away from them."

"Congress agreed with him to the extent of not passing the bill, so, unofficially, at least, we three owed our titles to an act of Congress."

"How'd we come to make the trip?"

"Well, we were sitting 'round Jimmy's garage one night talking about transcontinental touring, and somebody calculated 'twould be lots of fun, but it cost too much. I come back with a bet that Jimmy and I could borrow \$10 apiece, pay it back before we'd been out two weeks, and tour to New York and back without touching our bank accounts. We tied up our bank accounts so we couldn't touch them until we appeared in person, borrowed \$10 apiece, and started out in Jimmy's car with \$5,000 as the wager. Jimmy is the best mechanic and all-around automobile man in the world. Seven days out we sent back the money we'd borrowed, and seven weeks out we were in New York.

"How'd we pay our way?"

"Sign painting, doing fancy shooting, and other stunts. 'Twasn't easy to pick up all the money we needed."

. \$30.00 in Gold  
Just for a few Minutes' Work

Write The Times and tell about your most interesting motor trip.

For the best account of such a trip \$20.00 in Gold will be given.

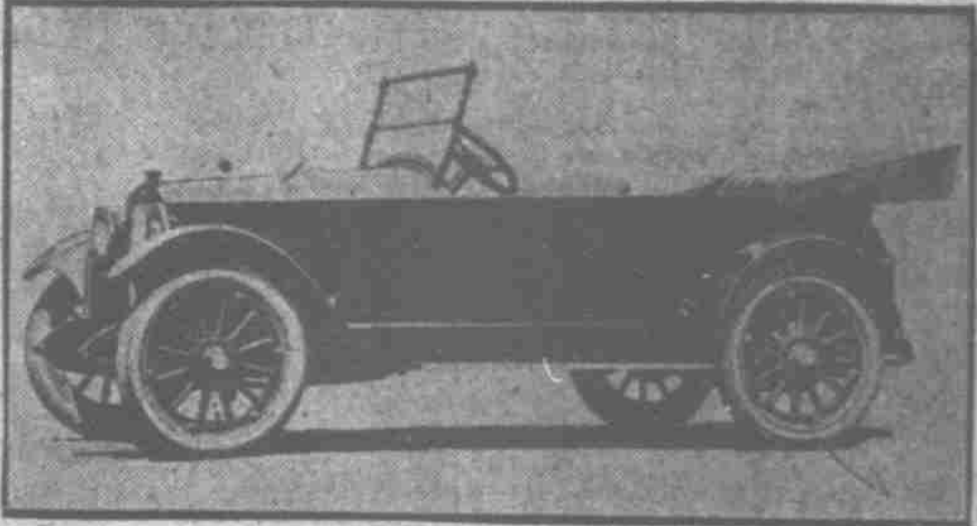
For the next best, \$10.00 in Gold will be given. Contest closes Saturday, August 30th, 1919.

A. G. Seiler, Touring Director of the American Automobile Association, will act as judge.

Send in your story NOW.

Address Automotive Editor Washington Times Tour Contest.

## This Is the New Cleveland



This new car is being handled by Warrington Motor Car Co., 1800 14th St. N. W.

SERVICE IS SUREST  
TEST OF TIRE MERIT

Some of the technical suggestions offered to the tire public today for making scientific tests of tires right at home bring memories of the days a score of years ago when the baking powder companies had representatives going from house to house boosting their own goods and showing the poor quality of competitive lines.

The representative of one baking powder company visited a housewife and, using many bewildering chemical terms, told her that her whole family was in danger of slow but sure death if she used a baking powder which fixed when combined with a certain chemical. The agent

then showed her how every one of the competing brands fixed in a most terrible manner, while his was fizz-less.

The next day along would come the representative of another house with information that a powder which did not effervesce contained the germs of death.

Motorists are becoming impressed every day with the truth of the assertion that the one sure test of tire merit is service. There is no other rule of thumb by which quality may be determined. Because a tire is heavier, or has more plies, or has a particular color tells nothing about its wearing quality. If it gives good mileage it has good value, and if it does not give the miles all the made-at-home tests amount to nothing.

In discussing this matter, the United States Tire Company says it finds that while some motorists show an interest in the technical features of tire construction, nearly all are interested most in knowing that a tire has a thoroughly established reputation for merit, and that the company which makes it has a reputation for square dealing.

DOWN TO  
THREE O'CLOCK  
YESTERDAY

There has not been, to our knowledge, a single instance in the United States of a successful theft of an automobile equipped with the Security Theft-Signal. Yet there are over 150,000 in use.

## WHY SECURITY

- BECAUSE—It catches the thief in the act.
- BECAUSE—It enables everyone to recognize the thief and identify the owner, anywhere, night or day.
- BECAUSE—It attracts attention to the thief.
- BECAUSE—It cannot be broken. The thief would be seen and arrested if this were attempted.
- BECAUSE—The public is educated to know that any person driving an automobile with a SECURITY AUTO THEFT-SIGNAL on the wheel, or tampering with the THEFT-SIGNAL, is a thief, and will cause his arrest.
- BECAUSE—\$100 Reward is offered, by the manufacturers, for the arrest and conviction of any such person.
- BECAUSE—It is a complete protective system which does not depend on its mechanical construction alone for the protection it gives. The public protects the car. The THEFT-SIGNAL is the identification mark by which the thief is recognized.

Hudson Super-Six Automobile Stolen

\$75.00 REWARD

Stolen in Washington, D. C. Saturday Night, August 23

My Hudson Super-Six, 7-passenger touring car. Painted black all around. Engine No. 8490. Car No. 6739. Model H. When stolen had on Maryland license No. 98786. D. C. license No. 27784. 2 Fiat non-skid cord tires on rear, a Fiat cord driving tread on right front and a Goodrich Silverstone cord driving tread, badly worn, on left front. A Goodrich Silverstone driving tread was locked on the side with an oilcloth cover on. Unusual identification marks are a small patch at upper left corner of stationary rear curtain, a small steel patch on inside of tip of right front mud guard, a brand-new tan colored curtain pocket up in the rear of the inside of the top, contrasting with the balance of the inside of the top, which is discolored from the rain. A small dent mid forward on the right rear mud guard.

I will pay \$50 reward for the recovery of the car and \$25 reward for the apprehension of the thief.

If Found Communicate With Washington Police Dept.

(Reprinted from the Washington Times of August 26)

This car would not have been stolen if it had been protected by an Auto Theft-Signal.

WHOLESALE AND RETAIL BY  
A. EBERLY'S SONS, INC.,  
718 7th St. N. W. Main 6557.  
BARBER & ROSS,  
11th & G Sts. N. W. Main 625  
RUDOLPH & WEST CO.,  
1332 New York Ave. N. W. Main 4870.  
NATIONAL ELECTRICAL SUPPLY CO.,  
1330 New York Ave. N. W. Main 6800.  
SOUTHERN AUTOMOBILE SUPPLY CO.,  
1232 Penn. Ave. N. W. Main 3564.  
CHAS. RUBEL & CO.,  
1621 L St. N. W. Franklin 7610

YOU must have observed the profound influence which the design of the Liberty has exerted upon motor car design, in general.

It must be plain to you, also, that it still remains distinct, individual, and striking—a car which instantly proclaims a charm that is all its own, and beyond imitation.

Now, if you will take your place at the wheel of a Liberty, you will be almost instantly conscious of a difference just as pronounced and just as striking, in the wonderful way in which it rides and drives.

Liberty Car Sales Co.  
Phone Main 560 1212 E Street N. W.

LIBERTY SIX